

# Hazardous Waste Program Compliance



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# Hazardous Waste Program Development

- ▶ HW Identification
- ▶ HW Quantification
- ▶ Special Wastes
- ▶ Generator Status
- ▶ HW Storage
- ▶ HW Disposal
- ▶ Episodic Generators
- ▶ HW Additional Considerations



# Hazardous Waste Identification

- ▶ What makes a waste a hazardous waste?
  - ▶ First – Solid Waste
    - ▶ Any garbage, refuse, sludge or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations and community activities.
    - ▶ For the purposes of Hazardous Waste Regulations, a solid waste is a material that is discarded by being either abandoned, inherently waste-like, certain military munitions, or recycled.
  - ▶ Second – Hazardous Waste
    - ▶ A solid waste with properties that make it dangerous or capable of having a harmful effect on human health and/or the environment.



# Hazardous Waste Identification

Listed Waste	Listed Code Definition	Examples of Waste
"F" Listed Waste	Wastes from certain common, nonspecific industrial activities	spent halogenated solvents (e.g., methylene chloride, 1,1,1-trichloroethane, perchloroethylene) waste paint solvents (e.g., acetone, methyl alcohol, butyl alcohol, xylene, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), ethyl acetate) electroplating wastewater treatment sludges
"K" Listed Waste	Wastes from certain specific industrial processes	Rarely, if ever, generated by small commercial businesses.
"U" Listed Waste and "P" Listed Waste	Discarded commercial chemical products, offspec products, container residues, and spill residues of such products	Certain old pesticides, solvents, and other chemical products EPA Listed Hazardous Waste List

Under RCRA, hazardous wastes are specifically defined as wastes that meet a particular listed description or that exhibit a characteristic of hazardous waste.

- Listed Wastes
- Characteristic Wastes



# Hazardous Waste Identification

Characteristic	Characteristic Definition	Examples of Waste
IGNITABILITY (EPA Waste Code D001)	Liquid waste with a flash points lower than 140°F Ignitable solids Ignitable compressed gases Materials that are designated by the U.S. DOT as oxidizers.	used solvents, waste gasoline, spent adhesives, non-empty container of alcohol based hand sanitizer gel
CORROSIVITY (EPA Waste Code D002)	Liquid wastes with a pH less than or equal to 2.0 Liquid wastes with a pH greater than or equal to 12.5	waste muriatic acid, caustic paint strippers, non-empty containers of drain cleaner
REACTIVITY (EPA Waste Code D003)	Materials that are: normally unstable; react violently, explode, or emit toxic fumes when mixed with water Capable of exploding at room temperature and pressure or when heated under confinement.	cyanide compounds, blasting caps, dynamite, other explosives, non-empty aerosol cans
TOXICITY (EPA Waste Code D004)	Materials containing greater than the regulated concentration of any of 40 contaminants listed in Appendix 1.	lead-based paint chips, spent methyl ethyl ketone solvent, waste gasoline (contains benzene)

A note on “D” codes: D codes indicate specific hazardous properties or specific regulated wastes e.g., Arsenic D004, Barium D005, Cadmium D006, etc.



# Hazardous Waste Quantification

- ▶ Important to understand how much hazardous waste is **GENERATED** (on a monthly basis) and how much waste is **ACCUMULATED**
- ▶ Amounts generated and accumulated drive regulatory applicability

	Conditionally Exempt Small Quantity Generator ( <b>CESQG</b> )	Small Quantity Generator ( <b>SQG</b> )	Large Quantity Generator ( <b>LQG</b> )
Hazardous Waste Generation Rate (per calendar month)	No more than 220 lbs of hazardous waste AND no more than 2.2 lbs of acute hazardous waste.	From 220 lbs up to 2,200 lbs of hazardous waste AND no more than 2.2 lbs of acute hazardous waste.	More than 2,200 lbs of hazardous waste OR more than 2.2 lbs of acute hazardous waste.
Max. Amount of Hazardous Waste Stored On-Site	No more than 2,200 lbs of hazardous waste	No more than 2,200 lbs of hazardous waste	More than 2,200 lbs of hazardous waste
Max. Storage Time	none	180 days	90 days
Regulatory Burden	Minimal	Multifaceted	Complex



# Wastes not quantified as hazardous

- ▶ Exempt Hazardous Wastes
- ▶ Hazardous wastes treated onsite (neutralization, wastewater treatment, etc.)
- ▶ Wastes that are recycled (COD Vials)
- ▶ Universal Wastes
- ▶ Used oil



# Universal Wastes

- ▶ Designated or streamlined wastes that are commonly generated
  - ▶ Batteries
  - ▶ Mercury containing equipment
  - ▶ Certain pesticides
  - ▶ Lamps/bulbs (including fluorescent, neon, and mercury vapor lamps)
  - ▶ Used electronics
- ▶ Cannot store accumulated UW for longer than 1 year
- ▶ Must keep track of quantities generated
- ▶ Must follow HW storage/container requirements
- ▶ Must label as Universal Waste and keep separate (min. 36" clearance from Hazardous waste)
- ▶ If mismanaged, universal waste may be considered hazardous waste, and added to hazardous waste generation totals





# Used oil

- ▶ Containers storing used oil, must be labeled with the words “Used Oil”
- ▶ Do NOT mix used oil with any other material or hazardous waste
- ▶ Pads, rags, wipers, absorbents are all considered used oil
- ▶ Store in containers that are in good condition
- ▶ Train employees on how to properly handle used oil
- ▶ Used oil is not included in hazardous waste totals as long as it is recycled, reconditioned, refined, or energy recovery

# Generator status

- ▶ Typically, ethanol plants are considered CESQG (this can vary by State)
- ▶ Being a Conditionally Exempt Small Quantity Generator does NOT mean a facility is exempt from the regulations
- ▶ How do you document generator status?
  - ▶ Quantify and identify all hazardous wastes
  - ▶ Make sure hazardous waste haulers have EPA ID
  - ▶ Ensure waste is properly labeled/manifested
  - ▶ Keep and maintain records
  - ▶ Comply with DOT requirements, Used Oil requirements, and Universal Waste requirements



# CESQG

## ► RECOMMENDATIONS:

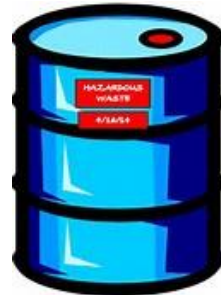
- Develop a Hazardous Waste Management Plan
  - As a CESQG, a formal plan is not required
  - Records are required to document generator status
- Implement a training program
- Implement hazardous waste emergency preparedness and response programs
  - Plans, procedures, maintenance of response equipment
  - Design programs to minimize hazards from fire, explosions, unplanned/sudden release, including threats posed by natural disasters



# Containers and Containment

## Containers

- ▶ Container compatible with material stored
- ▶ Use only clean storage containers
- ▶ Must be closed at all times
- ▶ Must be structurally sound, capable of preventing leakage, spillage or damage
- ▶ Inspections



## Containment

- ▶ Base should be impervious – no leaks, cracks, gaps, chips
- ▶ Secondary containment should be 110% of largest storage container
- ▶ Space to allow for unobstructed movement of personnel and ER equipment (usually ~30 inches)
- ▶ Inspections



# Labeling and Shipping

**HAZARDOUS WASTE**  
FEDERAL LAWS PROHIBIT IMPROPER DISPOSAL.  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
OR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION.

GENERATOR INFORMATION:  
NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
EPA ID NO.: \_\_\_\_\_ STATE MANIFEST TRACKING NO.: \_\_\_\_\_  
ACCUMULATION START DATE: \_\_\_\_\_ EPA WASTE NO.: \_\_\_\_\_

\_\_\_\_\_

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX  
**HANDLE WITH CARE!**

## Labeling

- ▶ Must be labeled as Hazardous Waste
- ▶ Have accumulation start date and end date (visible)
- ▶ Hazardous waste code
- ▶ Statements identifying the hazardous properties of the waste
- ▶ Composition of the waste
- ▶ Name/address of the generator

## Shipping

- ▶ Select, fill and close shipping container
- ▶ Mark/Label the container
- ▶ Prepare shipping papers, maintain records
- ▶ Use only registered/permitted transporters
- ▶ Ship to facilities authorized to accept waste type
- ▶ Provide/maintain emergency response information
- ▶ Select/provide placards if necessary
- ▶ Comply with DOT hazard classes and shipping requirements



# Episodic Generator

- ▶ What happens when you exceed the CESQG generator level?
  - ▶ Typically, States have a one time generator program (episodic, exemption, one time, etc.)
  - ▶ Allows for the one time clean outs or “oops” time of situations
  - ▶ Pay the fees, maintain the paperwork, but doesn't require program implementation
  - ▶ Submit paperwork to allow for episodic event
  - ▶ Episodic “allowances” may be limited
  - ▶ Certain states have no “allowances” and a generation event could result in a change in generator status

~These reasons are why a written program is helpful for facility compliance~



# Waste Minimization

- ▶ Best practice is to minimize hazardous waste generation.
  - ▶ Substitute for less hazardous alternatives;
  - ▶ Recycle;
  - ▶ Reduce Usage; or
  - ▶ Change of process.



# Additional Considerations

- ▶ Additional things to consider:
  - ▶ Who is responsible for making decisions related to hazardous waste determinations?
  - ▶ Who is responsible for quantifying hazardous waste?
  - ▶ Are policies in place related to the storage, shipping and handling of hazardous waste?
  - ▶ Do employees understand generation/storage/handling requirements? Is training being provided? Is PPE provided?
  - ▶ Are these HW policies coordinated with other plans, ie SPCC, FRP, etc.





# CESQG BMPs

- ▶ Several things you can do that can help keep you out of trouble
- ▶ Implement basic Best Management Practices (BMPs)
  - ▶ Store waste in manageable containers (make them portable)
  - ▶ There is no time frame for disposing of accumulated waste, but advised to get rid of it annually
  - ▶ Mark containers as hazardous waste and what the waste consists of
  - ▶ Keep containers closed
  - ▶ Conduct container inspections
    - ▶ Condition
    - ▶ Labeling
    - ▶ Quantity
    - ▶ Containment area



# Miscellaneous Compliance Considerations

- ▶ Industrial Storm Water General Permit Updates
  - ▶ Nebraska – Reissued 7-18-2016, Resubmit NOI by 1-1-2017
  - ▶ Kansas – Expires 10-31-2016, No NOI requirement
  - ▶ Iowa – Expires 10-1-2017, New information pending
- ▶ Tank inspections
  - ▶ Documented annual visual inspections (10-year internal inspection)
  - ▶ No documented annual inspections (5-year internal inspection)
  - ▶ Subpart Kb notifications for any internal floating roof landings



# Questions?



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